UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,602	12/11/2003	Francisco Rojo Lulic	870-003-166	7850

4955 7590 02/28/2005

WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER	
NGUYEN, TRAN N	
ART UNIT	**PAPER NUMBER**
2834	

DATE MAILED: 02/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/733,602	LULIC, FRANCISCO ROJO	
	Examiner	Art Unit	
	Tran N. Nguyen	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) 1-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wrobel** (US 5,170,086) in view of **Harada** et al (US 5,363,003).

Wrobel (figs 1-8c) discloses an internal-stator-external-rotor motor comprising:

an inner stator (3, 23) including a lamination stack (9) having a coating (13-14) at least partially covering the stator, wherein the inner stator (3, 23) being formed with an internal recess (unnumbered, figs 2-8c);

an external rotor (2);

a bearing support tube (8) having an inner side equipped with a bearing arrangement (5-6) for journaling said external rotor, and having an outer side to which said inner stator (3, 23) is secured;

an annular securing disk (24, 85) that is made of ferromagnetic material, particularly steel (col. 3 lines 41+) and arranged adjacent to the lamination stack (9) of

the stator; also, the disk is secured in said coating (13-14) of said lamination stack (9), wherein said disk (24, 85) (fig 3) having barbs (26, 83, 88), provided at the inner periphery (25), are extended into said internal recess of the inner stator (figs. 2, 4, 6, 8c), said barbs (26, 83, 88) are for engaging into said outer side of said bearing support tube (8).

Wrobel substantially discloses the claimed invention, except for the following:

(a) an outer surface of said bearing support tube is formed with a stop and, upon mounting of said inner stator onto said tube, said stator abuts against said stop, *as in claim 4*;

(b) said bearing support tube has an exterior surface formed with a plurality of longitudinal guide grooves, which provide angular orientation to said extending portions of said ring, wherein said extending portions engaging as barbs into said guide grooves, and at least one of said extending portion (barb) has a width, which corresponds to a width of an associated one of said guide grooves, *as in claims 5-6*;

(c) wherein the external rotor motor further comprising fan blades formed on an outer periphery of said external rotor, as in claim 7, or recited as a fan motor, *as in claim 9*.

(d) said external rotor has a diameter not exceeding 60 mm, *as in claim 8*;

Regarding the limitations of subsection (a) and (c) above, Harada, however, teaches an external-rotor fan motor (figs 1-5) having fan blades (33) wherein an outer surface of said bearing support tube (2) is formed with a stop (21) and, upon mounting of said inner stator lamination stack (7) onto said tube, said stator stack abuts against said stop (21) for the purpose of the stator (6) being reliably attached to the bearing support (2).

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the external rotor motor with the bearing support structure having a stop upon mounting of said inner stator onto said tube, the stator abuts against said stop, as taught by Harada. Doing so would provide an abutment means to ensure the stator is reliably attached to the bearing support so that the bearing support tube also supporting the abutment of the stator thereon.

Furthermore, it would have been obvious to one skilled in the art at the time the invention was made to modify the external rotor motor with the fan blades so that the motor can be used as a fan motor, instead of a disk-drive motor as in Wrobel. Doing so would obvious as an engineering design choice of one of many suitable industrial applications of an external-rotor motor. Also, external-rotor motors being used as fan motors are well known in the art.

Regarding the limitations of subsection (b) and (d), Harada also teaches the bearing support tube (2) has an exterior surface formed with a plurality of longitudinal guide grooves (16), while the stator-securing element (11) has extending portions (14) serving as barbs to securely engage into the guide grooves (16) for the purpose of firmly retaining the stator in place. Harada's teaching of providing:

a first stator abutment defined by a stop (21) on the bearing support, and

a second stator abutment defined by stator securing element having extending barb portions (14) engaging into corresponding grooves (16) in the bearing support (2),for the purpose of ensuring the stator securely attached to the bearing support. This concept is similar to that in the claimed invention.

Hence, it would have been obvious to an artisan to apply the Harada teaching and modify the size and shape of the grooves on the bearing support exterior surface so that the width of the extending barb portions corresponding to a width of an associated one of the guide grooves for the purpose of snugly fitting between the grooves and the barb in order to firmly secure and support the stator abutment. It has been held that a change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose,* 105 USPQ 237 (CCPA 1955) (emphasis added).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to apply the Harada's teaching, by modifying the motor with a plurality of grooves on the outside surface of the bearing supports for matchingly engaging with the extended bards to firmly secure the stator structure thereon, again as taught by Harada. Doing so would provide matchingly engaging abutment mechanism to ensure the stator securely restrained in position.

Furthermore, it would have been obvious to one skilled in the art at the time the invention was made to configure the bearing support exterior surface's groove with longitudinal configuration and width dimension correspondingly so that the width of the groove and the

width of the associated extending barb are snuggly engage into one another. Doing so would ensure firmly abutment between the bearing support and the securing disk for holding the stator in place.

Also, by the same token of obvious modification by changing size and shape being generally recognized as being within the level of ordinary skill in the art (*In re Rose,* 105 USPQ 237 (CCPA 1955),emphasis added), it would have been obvious to one skilled in the art at the time the invention was made to configure the external rotor has a diameter not exceeding 60 mm, as in the claimed invention. Doing so would provide an external-rotor motor having such a small overall size for miniature motor applications in small-size electrical appliances.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tran N. Nguyen
Primary Examiner
Art Unit 2834